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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,740	02/01/2007	Takashi Mashimo	P71246US0	5439

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EXAMINER	
MICALI, JOSEPH	

ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,740	MASHIMO ET AL.	
	Examiner	Art Unit	
	Joseph V. Micali	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/14/06, 12/5/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

Claims 1-6 are pending and presented for examination on the merit.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 2002-050364 by Kurano, in view of US Patent No. 6,610,435 by Maruyama et al.

With respect to claim 1, Kurano discloses a fuel cell separator **(title)** comprising:

a separator main body that includes a gas channel, a manifold that penetrates the separator main body in a fuel cell stacking direction, and a groove that connects the gas channel to the manifold **(claim 1 and figures 1-3)**;

a plate member that covers an opening of the groove **(claim 1 and figures 2-3)**; and

a gasket that is made of an elastic material, prevents gas leakage from the manifold to the outside, and is formed in a region on the surfaces of the separator main body and the plate member, the region surrounding the manifold **(claim 1, paragraphs 0006-0007, 0016, and figures 2-3)**, wherein

the plate member has through holes **(figures 2-3)**,

when the gasket is being integrally molded with the region on the surface of the plate member containing the notches or the through holes, part of the elastic material fills the through holes, thereby increasing the fixing strength of the plate member to a predetermined position on the opening of the groove **(paragraph 0010, and figures 2-3)**. As Kurano teaches such an injection molding process of the gasket and the level difference space of figure 3, Kurano inherently teaches some of the elastic material will fill the through holes.

Kurano is silent with regards to a power generating device interposed between the fuel cell separator and another fuel cell separator, with the power generating device having an electrolyte film and electrode films, as the Kurano disclosure is only drawn to the separator.

Maruyama is drawn to a fuel gas with reduced gas leakage. Specifically, Maruyama teaches a fuel cell where a gasket covers a portion of the solid polymer electrolyte membrane with a plurality of separators separating the electrode units; thus, stacking the electrode units and separators to form a fuel cell (**abstract**).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Kurano including the addition of a power generating device interposed between separators, in view of the teaching of Maruyama. The suggestion or motivation for doing so would have been to form a fuel cell, or at least units for a fuel cell (**Maruyama, abstract**).

With respect to claim 2, the references as combined teach all the claimed limitations of the second fuel cell separator (**See "With respect to claim 1"**) in addition to the limitation of the separator main body having guide protrusions with such protrusions being inserted through the through holes in the plate member (**Kurano, figures 2-3**).

With respect to claim 6, the references as combined teach such a solid polymer electrolyte fuel cell comprising the fuel separator (**Maruyama, abstract, and Kurano, claim 1 and figures 1-3**).

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 2002-050364 by Kurano, in view of US Patent No. 6,610,435 by

Maruyama et al, as applied to claims 1-2 and 6 above, and further in view of US Patent Pub. No. 2007/0207365 by Ohnuma.

With respect to claims 3 and 4, the references of Kurano and Maruyama as combined above teach all the limitations of such claims (**See "With respect to claim 2"**), except for the limitation of having concave portions in the separator at locations corresponding to the through holes in the plate member, and thus, having convex portions in the gasket being formed (As Kurano teaches an injection molding process).

Ohnuma is drawn to a fuel cell. Specifically, when disclosing the separator structure, Ohnuma teaches that the rib portions of the separator may have a concave, convex, or concave-convex shape at the top (**paragraphs 0025, 0034, 0063, and 0072**).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the process of Kurano and Maruyama including a concave top portion to the separator area between the plate members, in view of the teaching of Ohnuma. The suggestion or motivation for doing so would have been to provide a better seal (**Ohnuma, paragraph 0034**).

With respect to claim 5, **MPEP 2144.04 [R-6] II** covers such a situation in that, "Omission of an Element and Its Function Is Obvious if the Function of the Element Is Not Desired." In this instant case, applicant is claiming a separation in the gasket between the area covering the plate member and the rest of the separator. Thus, the omission of a continuous layer of the gasket and its function of sealing both plate and separator together securely under one unified layer is obvious in the instance where one does not want to seal both plate and separator together, as the applicant is claiming. A suggestion or motivation for one having ordinary skill in the art at the time the invention was made, if

necessary, would have been to seal the two parts separately for easier removal of the plate member i.e. only removing that specific part of the gasket layer rather than the whole.

Conclusion

7. Claims 1-6 are rejected.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph V. Micali whose telephone number is (571) 270-5906. The examiner can normally be reached on Monday through Friday, 7:30am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry A. Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph V Micali/
Examiner, Art Unit 1793

/Michael A Marcheschi/
Primary Examiner, Art Unit 1793